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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,788	06/13/2006	Hitoshi Ono	Q95452	5946
23373 7590 07/29/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
GOFF II, JOHN L				
ART UNIT		PAPER NUMBER		
1791				
NOTIFICATION DATE		DELIVERY MODE		
07/29/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/582,788

Applicant(s)

ONO ET AL

Examiner

John L. Goff

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 6/13/06, 8/28/06, 10/6/08, 2/23/09

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-13, drawn to a leather-like sheet material.

Group II, claim(s) 14-18, drawn to a process for producing a leather-like sheet material.

The groups of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Groups I and II include the same feature of a fibrous substrate and an elastomeric film layer bonded to each other through an adhesive layer containing a silicone compound and a water-soluble or water-dispersible elastic polymer wherein JP 2001-348786 as modified by Hanada, Retzsch, or Sagiv as fully set forth below teaches a leather-like material having the feature such that Groups I and II do not relate to a single general inventive concept and lack unity of invention as they lack a same or corresponding special technical feature not previously known in the art.

2. During a telephone conversation with Joseph Ruch on 9/24/09 a provisional election was made without traverse to prosecute the invention of Group II, claims 14-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 14, 15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. (JP 2001-348786 and see also the machine translation) in view of Hanada et al. (U.S. Patent 4,853,418), Retzsch (U.S. Patent 4,018,559), or Sagiv et al. (U.S. Patent Application Publication 2002/0002232).

Kikuchi discloses a process for the production of a leather-like sheet material by attaching a fibrous substrate, e.g. a nonwoven, and an elastomeric film layer, e.g. polyurethane,

by applying an adhesive of a water dispersion of an elastic polymer, e.g. polyurethane, containing additional additives including water repellants such as a silicon system to the attachment surface of each of the substrate and film, attaching the substrate and film, drying the applied adhesive to form the sheet, and nipping the sheet with a hot roll at a temperature between 100 and 180 °C (Paragraphs 0001, 0009, 0013, 0021-0023, 0028, and 0032-0034). Kikuchi does not expressly teach the adhesive contains a silicone compound. However, conventional water repellants for a leather-like sheet of a silicon system include silicone compounds such as silicone oil as evidenced by Hanada (Column 1, lines 9-16 and Columns 3-6) or Retzsch (Column 2, lines 37-40). Alternatively, it was known in the art that an adhesive of a water dispersion of an elastic polymer contain a silicone compound to prevent air entrapment during processing and to provide a smooth adhesive layer as shown by Sagiv (Paragraphs 0002 and 0035). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the silicon system water repellant in Kikuchi a silicone compound as was conventional in the art as evidenced by Hanada or Retzsch. Alternatively, it would have been obvious to include in the adhesive of a water dispersion of an elastic polymer taught by Kikuchi known additives for similar compositions such as a silicone compound as shown by Sagiv to prevent air entrapment during processing and to provide a smooth adhesive layer.

Regarding claim 17, Kikuchi does not expressly describe the adhesive infiltrates the fibrous substrate to any particular thickness. However, one of ordinary skill in the art at the time the invention was made would have readily expected the adhesive to infiltrate the fibrous substrate in Kikuchi as modified similarly to that of applicants as the adhesive and fibrous substrate taught by Kikuchi as modified is consistent and in agreement with the materials

disclosed and claimed by applicants as resulting in the same wherein it would have been further obvious to determine the infiltration thickness required to achieve the necessarily adhesiveness between the adhesive and fibrous substrate with the claimed range being expected absent a specific showing of other unexpected results.

7. Claims 14, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai (JP 06-106682 and see also the machine translation) in view of Kikuchi and Hanada or Retzsch.

Tamai discloses a process for the production of a leather-like sheet material by attaching a fibrous substrate, e.g. a nonwoven, and an elastomeric film layer by applying an adhesive of an elastic polymer, e.g. styrene butadiene, in organic solvent, attaching the substrate and film, and drying the applied adhesive to form the sheet (Figure and Paragraphs 0012, 0013, 0020, 0021, and 0023). Tamai does not expressly teach the adhesive contains water or a silicone compound. However, it was known in the art that the adhesive of an elastic polymer, e.g. styrene butadiene, include water as alternative to organic solvent because water is better for the environment and to include a silicon system for imparting water repellency to the leather-like sheet material as shown by Kikuchi (Paragraphs 0001, 0009, 0013, 0021-0023, 0028, and 0032-0034). Further, conventional water repellants for a leather-like sheet of a silicon system include silicone compounds such as silicone oil as evidenced by Hanada or Retzsch. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the organic solvent taught by Tamai with water as taught by Kikuchi as water is better for the environment and to include in the adhesive a silicon system to impart water repellency to the sheet as also

suggested by Kikuchi wherein the silicon system is that known as conventional in the art of a silicone compound as evidenced by Hanada or Retzsch.

Regarding claim 17, Tamai does not expressly describe the adhesive infiltrates the fibrous substrate to any particular thickness. However, one of ordinary skill in the art at the time the invention was made would have readily expected the adhesive to infiltrate the fibrous substrate in Tamai as modified similarly to that of applicants as the adhesive and fibrous substrate taught by Tamai as modified is consistent and in agreement with the materials disclosed and claimed by applicants as resulting in the same wherein it would have been further obvious to determine the infiltration thickness required to achieve the necessarily adhesiveness between the adhesive and fibrous substrate with the claimed range being expected absent a specific showing of other unexpected results.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi and Hanada, Retzsch, or Sagiv as applied to claims 14, 15, 17, and 18 above or alternatively, Tamai and Kikuchi and Retzsch or Sagiv as applied to claims 14, 15, and 17 above, and each further in view of Sato et al. (JP 63249787 and see also the abstract).

Kikuchi is silent as to the adhesive also including thermally expandable microcapsules as one of the additives. It was known in the art of forming a similar leather-like sheet material to include thermally expandable microcapsules in the adhesive to form a lightweight sheet material with high adhesive strength as shown by Sato (See the abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the adhesive taught by Kikuchi as modified or Tamai as modified thermally expandable microcapsules as

taught by Sato to form the leather-like sheet material with a light weight and a high adhesive strength.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571)272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1791